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ORGANIZED 1878

INCORPORATED 1891

SEPTEMBER, 1904

TRANSACTIONS  
OF THE AMERICAN  
MICROSCOPICAL  
SOCIETY

EDITED BY THE SECRETARIES

TWENTY-SIXTH ANNUAL MEETING  
HELD AT  
WINONA LAKE, INDIANA  
JULY 29, 30 AND 31, 1903

VOLUME XXV  
AND INDEX TO VOLUMES I TO XXV INCLUSIVE

A FULL LIST OF THE PUBLICATIONS OF THE AMERICAN  
MICROSCOPICAL SOCIETY

- Volume I. Proceedings of the National Microscopical Congress, held at Indianapolis, Ind., ... 1878, and of the American Society of Microscopists, held at Buffalo, N. Y., ... 1879. 77 pp. 5 pl. Indianapolis: 1880.
- Volume II. Proceedings of the American Society of Microscopists. Third Annual Meeting, held at Detroit, Mich., ... 1880. 84 pp. 3 pl. Columbus, O.: 1881.
- Volume III. Proceedings of the American Society of Microscopists. Fourth Annual Meeting, held at Columbus, Ohio, ... 1881, 102 pp. 7 pl. Buffalo: 1881.
- Volume IV. Proceedings of the American Society of Microscopists. Fifth Annual Meeting, held in Elmira, N. Y., ... 1882. 292 pp. 6 pl. Buffalo: 1882.
- Volume V. Proceedings of the American Society of Microscopists. Sixth Annual Meeting, held at Chicago, Ill., ... 1883. 275 pp. 2 pl. Buffalo: 1883.
- Volume VI. Proceedings of the American Society of Microscopists. Seventh Annual Meeting, held at Rochester, N. Y., ... 1884. 300 pp. 6 pl. Buffalo: 1884.
- Volume VII. Proceedings of the American Society of Microscopists. Eighth Annual Meeting, held at Cleveland, Ohio, ... 1885. 258 pp. 6 pl. Buffalo: 1885.
- Volume VIII. Proceedings of the American Society of Microscopists. Ninth Annual Meeting, held at Chautauqua, N. Y., ... 1886. 243 pp. 7 pl. Buffalo: 1886.
- Volume IX. Proceedings of the American Society of Microscopists. Tenth Annual Meeting, held at Pittsburg, Pa., ... 1887. 359 pp. 14 pl. Peoria, Ill.: 1888.
- Volume X. Proceedings of the American Society of Microscopists. Eleventh Annual Meeting, held at Columbus, Ohio, ... 1888. 204 pp. Hartford, Conn.: n. d.
- Volume XI. Proceedings of the American Society of Microscopists. Twelfth Annual Meeting, held at Buffalo, N. Y., ... 1889. 182 pp. 11 pl. Buffalo: 1889.
- Volume XII. Proceedings of the American Society of Microscopists. Thirteenth Annual Meeting, held at Detroit, Mich., ... 1890. 312 pp. 10 pl. Washington, D. C.: 1891.
- Volume XIII. Proceedings of the American Society of Microscopists. Fourteenth Annual Meeting, held at Washington, D. C., ... 1891. 219 pp. 15 pl. Washington, D. C.: 1892.
- Volume XIV. Proceedings of the American Microscopical Society. Fifteenth Annual Meeting, held at Rochester, N. Y., ... 1892. 185 pp. 12 pl. In three parts. Washington, D. C.: 1892-93.

TRANSACTIONS  
OF THE  
American Microscopical  
Society

ORGANIZED 1878      INCORPORATED 1891

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Twenty-Sixth Annual Meeting

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VOLUME XXV

AND INDEX TO VOLUMES I TO XXV INCLUSIVE

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# American Microscopical Society

## Buffalo Meeting



August 23, 24, 25, 1904

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BUFFALO SOCIETY OF NATURAL SCIENCES

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LIBRARY BUILDING

BUFFALO, N. Y.

## Programme.

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*Tuesday, August 23rd, 1904.*

**10 a. m.** Rooms Buffalo Society of Natural Sciences. Call to order,  
Dr. Wm. C. Krauss, Chairman Committee of Arrangements.

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Address of Welcome on behalf of the City,  
Hon. Erastus Knight, Mayor of Buffalo.

---

Address of Welcome on behalf of the Buffalo Society of Natural Sciences.  
Hon. T. Guilford Smith, President.

---

Address, Dr. Henry R. Hopkins.  
Opening of the Sessions by the President, Prof. T. J. Burrill.

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Noon. Complimentary Luncheon to Members. Library of the Museum.

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*Tuesday, August 23rd, 1904.*

**2 p. m.** Rooms Society of Natural Sciences.

Twenty-five Years of the American Microscopical Society: A Retrospect.  
Dr. William C. Krauss.

The Practical Value of the Microscope in the Examination of Handwriting.  
Illustrated by actual cases. Dr. Geo. E. Fell.

Photographing with Lenses from the Eyes of Insects and Higher Animals.  
Prof. Wm. F. Watson.

An Apparatus for applying Mono-chromatic Illumination to the Microscope.  
Dr. Hermann Kellner.

**4.30 to 6 p. m.** Inspection of the State Cancer Laboratory, 113 High  
Street. Dr. Roswell Park, Director.

(Take Main St. car to High St.)

*Tuesday, August 23rd, 1904.*

**8 to 11 p. m.** Reception at Hotel Lafayette, under auspices of the Ladies  
Committee. Mrs. John Miller Horton, Chairman.

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*Wednesday, August 24th, 1904.*

**10 a. m.** Rooms of the Buffalo Historical Society. (Take Elmwood Car.)

Address of Welcome, Mr. Frank H. Severence.

The Origin and Early Development of the American Microscopical Society.  
Dr. R. H. Ward.

The Typhoid Problem at Buffalo. Dr. Geo. E. Fell.

## Programme *Cont'd.*

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- A few notes on some Interesting Pathological Material. Dr. Vida A. Latham.  
Fresh-water Investigations, Continued. Prof. Henry B. Ward.  
A Special apparatus for Collecting Plankton, with some results obtained by  
its use. Prof. B. L. Seawell.  
The Copepoda of Nebraska, with notes on some from other States.  
Mr. A. S. Pearse.  
Notes on North American Ticks. Prof. R. H. Wolcott.
- 

### *Noon.*

Complimentary Luncheon to members, at Park Club.

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*Wednesday, August 24th, 1904.*

#### **2 p. m.** Rooms Historical Society.

- New Species of Fresh-water Mites. Prof. R. H. Wolcott.  
On the Occurrence of an Amœba parasitic in *Volvox globator*.  
Mr. J. C. Smith.  
Variations in *Opisthorchis pseudofelineus*. Mr. F. D. Barker.  
A review of the Protozoan Parasites of Man, hitherto reported in the United  
States. Prof. Henry B. Ward.  
A New Fluke parasitic in Man. Prof. Henry B. Ward.  
The Relation of Leaf-structure to Physical Factors. Dr. Edith L. Clements.  
The structure and classification of the Lower Green Algae.  
Prof. Chas. E. Bessey.

**4.30 to 6 p. m.** Inspection of the Spencer Lens Co.'s Works, 367 Seventh  
Street. Take Niagara Car to Hudson St.

*Wednesday, August 24th, 1904.*

Buffalo Society of Natural Sciences.

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- 8 to 9 p. m.** Address of the President, Prof. T. J. Burrill.  
"Micro-Organisms of the Soil and Human Welfare."

**9 to 11 p. m.** Microscopical Exhibition.

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*Thursday, August 25th, 1904.*

**10 a. m.** Rooms Society of Natural Sciences.

- Final meeting for the reading of papers.  
Election of Officers for the coming year.  
Adjournment of Meeting.

**OFFICERS OF THE  
AMERICAN MICROSCOPICAL SOCIETY.**

---

T. J. BURRILL, PRESIDENT, Urbana, Ill.

HENRY B. WARD, SECRETARY.

ROBT. H. WOLCOTT, ASS'T SEC'Y, Lincoln, Neb.

J. C. SMITH, TREASURER, New Orleans, La.

MAGNUS PFLAUM, Custodian, Pittsburg, Pa.

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---

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MISS ELIZABETH J. LETSON, Secretary.

**Arrangement Committee.**

DR. WM. C. KRAUSS, Chairman.

Dr. Roswell Park, Dr. Ernest Wende,

Dr. John A. Miller, Dr. Carlos E. Cummings,

Mr. Frank Severence.

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Mrs. John J. Albright, Mrs. Robert P. Wilson,

Mrs. Charles H. Williams, Mrs. W. A. Auman,

Mrs. T. Guilford Smith, Mrs. George Bell, Jr.,

Mrs. George L. Williams, Mrs. Elizabeth Love Cary,

Mrs. Dexter Rumsey, Mrs. Maria Love,

Mrs. George E. Matthews, Mrs. John D. Larkin,

Mrs. Charles W. Goodyear, Mrs. Wm. C. Krauss,

Mrs. D. S. Alexander, Mrs. Frank H. Goodyear,

Mrs. Lucien Howe.

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Mr. Edgar B. Stevens, Mr. Hardin H. Littell,

Mr. W. Caryl Ely, Mr. Lewis J. Bennett,

Mr. Charles H. Williams, Mr. Edward H. Butler,

Mr. H. H. Larkin.

**Printing Committee.**

MR. OTTOMAR REINECKE, Chairman.

Dr. Frederick Lewis, Dr. Chauncey P. Smith.

**Exhibit Committee.**

DR. GEORGE E. FELL, Chairman.

Dr. F. W. Barrows, Dr. Carlos E. Cummings,

Dr. H. R. Gaylord, Dr. C. A. Bentz,

Dr. H. U. Williams, Dr. Fred'k Lewis,

Dr. W. G. Eissell, Dr. John A. Miller.



# OFFICERS FOR 1903-1904

*President:* T. J. BURRILL.....Urbana, Ill.  
*Vice-Presidents:* H. A. WEBER.....Columbus, O.  
                           F. W. KÜHNE.....Fort Wayne, Ind.  
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*Assistant Secretary:* R. H. WOLCOTT.....Lincoln, Neb.  
*Treasurer:* J. C. SMITH.....New Orleans, La.  
*Custodian:* MAGNUS PFLAUM.....Pittsburg, Pa.

## ELECTIVE MEMBERS OF THE EXECUTIVE COMMITTEE

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 L. B. ELLIOTT.....Rochester, N. Y.  
 J. M. STEDMAN.....Columbia, Mo.

## EX-OFFICIO MEMBERS OF EXECUTIVE COMMITTEE

Past Presidents still retaining membership in the Society

R. H. WARD, M.D., F.R.M.S., of Troy, N. Y.,  
   at Indianapolis, Ind., 1878, and at Buffalo, N. Y., 1879.  
 H. L. SMITH, LL.D., of Geneva, N. Y.,  
   at Detroit, Mich., 1880, and at Cleveland, O., 1885.  
 J. D. HYATT, of New York City,  
   at Columbus, O., 1881.  
 ALBERT McCALLA, Ph.D., of Fairfield, Ia.,  
   at Chicago, Ill., 1883.  
 T. J. BURRILL, Ph.D., of Champaign, Ill.,  
   at Chautauqua, N. Y., 1886.  
 GEO. E. FELL, M.D., F.R.M.S., of Buffalo, N. Y.,  
   at Detroit, Mich., 1890.  
 FRANK L. JAMES, Ph.D., M.D., of St. Louis, Mo.,  
   at Washington, D. C., 1891.  
 MARSHALL D. EWELL, M.D., of Chicago, Ill.,  
   at Rochester, N. Y., 1892.  
 SIMON HENRY GAGE, B.S., of Ithaca, N. Y.,  
   at Ithaca, N. Y., 1895.  
 A. CLIFFORD MERCER, M.D., F.R.M.S., of Syracuse, N. Y.,  
   at Pittsburg, Pa., 1896.  
 W. C. KRAUSS, M.D., of Buffalo, N. Y.,  
   at Columbus, O., 1899.  
 A. M. BLEILE, M.D., of Columbus, O.,  
   at New York City, 1900.  
 C. H. EIGENMANN, Ph.D., of Bloomington, Ind.,  
   at Denver, Col., 1901.  
 CHARLES E. BESSEY, LL.D., of Lincoln, Neb.,  
   at Pittsburg, Pa., 1902.  
 E. A. BIRGE, LL.D., of Madison, Wis.,  
   at Winona Lake, Ind., 1903.

The Society does not hold itself responsible for the opinions expressed by members in its published Transactions unless endorsed by a special vote.

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